

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A method for protecting epithelial tissue during photodynamic therapy induced using a pre-photosensitizing agent, the method comprising the steps of:
 - administering a pre-photosensitizing agent to epithelial tissue and a targeted treatment site underlying the epithelial tissue;
 - preventing metabolism of the pre-photosensitizing agent in the epithelial tissue, while allowing the pre-photosensitizing agent to metabolize into a photosensitizing agent in tissue at the targeted treatment site; and
 - irradiating the targeted treatment site to activate the photosensitizing agent at the targeted treatment site, wherein the epithelial tissue is substantially unaffected.
2. (Previously Presented) The method of claim 1, wherein the step of preventing metabolism of the pre-photosensitizing agent in epithelial tissue comprises creating a temperature gradient between the epithelial tissue and tissue at the targeted treatment site.
3. (Original) The method of claim 2, wherein the temperature gradient is created before the step of irradiating.
4. (Previously Presented) The method of claim 2, wherein the temperature gradient is created by cooling the epithelial tissue.
5. (Original) The method of claim 4, wherein the step of cooling comprises the step of positioning a contact device containing a cooling medium on the epithelial tissue.
6. (Original) The method of claim 5, wherein the cooling medium is selected from the group consisting of a solid, liquid, and a gas medium.
7. (Original) The method of claim 5, wherein the contact device further includes a radiant energy source that is effective to heat tissue at the targeted treatment site.
8. (Original) The method of claim 7, wherein at least a portion of the contact device is transparent for allowing radiant energy from the radiant energy source to pass therethrough.

9. (Original) The method of claim 5, wherein the contact device is removed from the epithelial tissue before the targeted treatment site is irradiated with light.
10. (Original) The method of claim 5, wherein the contact device is coupled to a light source for irradiating the targeted treatment site.
11. (Original) The method of claim 4, wherein the epithelial tissue is cooled concurrently while the targeted treatment site is irradiated with light.
12. (Original) The method of claim 4, wherein the epithelial tissue is cooled to a temperature that differs from a temperature of tissue at the targeted treatment site by at least about 5° C.
13. (Original) The method of claim 4, wherein the epithelial tissue is cooled to a temperature that is equal to or less than about 25° C.
14. (Original) The method of claim 4, wherein the epithelial tissue is cooled to a temperature in the range of about 20° C to -5° C.
15. (Previously Presented) The method of claim 2, wherein the temperature gradient is created by cooling the epithelial tissue and heating tissue at the targeted treatment site.
16. (Previously Presented) The method of claim 15, wherein the tissue at the targeted treatment site is heated to a temperature that is equal to about 25° C.
17. (Original) The method of claim 15, wherein the tissue at the targeted treatment site is heated to a temperature in the range of about 25° C to 40° C.
18. (Original) The method of claim 15, wherein the step of heating the tissue at the targeted treatment site comprises delivering a radiant energy source to the tissue.
19. (Original) The method of claim 18, wherein the radiant energy source is selected from the group consisting of visible light, infrared light, microwave energy, ultrasound, and radiofrequency energy.

20. (Original) The method of claim 1, wherein the targeted treatment site comprises malignant cells, and the step of irradiating the targeted treatment site with light is effective to substantially destroy the malignant cells.
21. (Original) The method of claim 1, wherein the targeted treatment site comprises a patient's sebaceous glands, and the step of irradiating the targeted treatment site with light is effective to treat acne.
22. (Original) The method of claim 1, wherein the targeted treatment site comprises a patient's hair follicles, and the step of irradiating the targeted treatment site with light is effective to substantially remove hair associated with the hair follicles.
23. (Previously Presented) The method of claim 1, wherein the step preventing metabolism of the pre-photosensitizing agent in epithelial tissue comprises applying a chemical inhibitor to the epithelial tissue.
24. (Currently Amended) The method of claim ~~23~~ 50, wherein the chemical inhibitor is applied to the epithelial tissue at a concentration that is equal to about 0.1%.
25. (Currently Amended) The method of claim ~~23~~ 50, wherein the chemical inhibitor is selected from the group consisting of 4,6-dioxoheptanoic acid, succinyl acetone, pridoxal-5-phosphate, zinc ions, ferrous ions, and lead ions.
26. (Currently Amended) The method of claim ~~23~~ 50, wherein the chemical inhibitor is applied to the epithelial tissue for a duration that is equal to about 15 minutes.
27. (Currently Amended) The method of claim ~~23~~ 50, wherein the chemical inhibitor is in a cream that is applied to the epithelial tissue.
28. (Original) The method of claim 27, wherein the pre-photosensitizing agent is contained within the cream and applied simultaneously with the chemical inhibitor.

29. (Currently Amended) The method of claim 23 50, wherein the pre-photosensitizing agent is applied to the targeted treatment site epithelial tissue and the targeted tissue after the chemical inhibitor is applied to the epithelial tissue.

30. (Currently Amended) The method of claim 23 50, further comprising the step of cooling the epithelial tissue before irradiating the treatment site epithelial tissue and the targeted tissue with light.

31. (Currently Amended) The method of claim 23 50, wherein the pre-photosensitizing agent is a porphyrin precursor.

32. (Currently Amended) The method of claim 23 50, wherein the pre-photosensitizing agent is an enzyme-activated pre-photosensitizer construct.

33. (Currently Amended) The method of claim 23 50, wherein the pre-photosensitizing agent comprises aminolevulinic acid (ALA).

34. (Original) The method of claim 33, wherein the ALA is applied at a concentration of at least about 0.1%.

35-43. (Canceled).

44. (Previously Presented) The method of claim 15, wherein the tissue at the targeted treatment site is heated to a temperature that is greater than 25° C.

45. (Currently Amended) The method of claim 23 50, wherein the chemical inhibitor is applied to the epithelial tissue at a concentration that is greater than 0.1%.

46. (Currently Amended) The method of claim 23 50, wherein the chemical inhibitor is applied to the epithelial tissue for a duration that is greater than 15 minutes.

47. (Previously Presented) The method of claim 2, wherein the step of irradiating the targeted treatment site comprises maintaining at least a portion of the targeted treatment site at a temperature in a range between about 25°C and about 40°C.

48. (New) A method for protecting epithelial tissue during photodynamic therapy induced using a pre-photosensitizing agent, the method comprising the steps of:

administering a pre-photosensitizing agent to epithelial tissue and a targeted tissue underlying the epithelial tissue;

preventing metabolism of the pre-photosensitizing agent in the epithelial tissue, while allowing the pre-photosensitizing agent to metabolize into a photosensitizing agent in the targeted tissue; and

irradiating the epithelial tissue and the targeted tissue, with the targeted tissue at a temperature in a range between about 25°C and about 40°C during the irradiation, to activate the photosensitizing agent in the targeted tissue without substantially affecting the epithelial tissue.

49. (New) The method of claim 48, wherein the epithelial tissue and the targeted tissue are irradiated with the epithelial tissue at a temperature that is less than the temperature of the targeted tissue.

50. (New) A method for protecting epithelial tissue during photodynamic therapy induced using a pre-photosensitizing agent, the method comprising the steps of:

administering a pre-photosensitizing agent to epithelial tissue and a targeted tissue underlying the epithelial tissue;

applying a chemical inhibitor to prevent metabolism of the pre-photosensitizing agent in the epithelial tissue while allowing metabolism of the pre-photosensitizing agent in the targeted tissue; and

irradiating the epithelial tissue and the targeted tissue.